## Saulo Müller Soares

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#### **EDUCATION**

### University of Hawaři at Mānoa, Honolulu, Hawaii, USA

Ph.D., Oceanography

2015

- Dissertation Title: Generation, Propagation and Dissipation of Near-Inertial Waves in the Tropical Ocean
- · Advisor: Kelvin J. Richards

#### Universidade de São Paulo, São Paulo, São Paulo, Brazil

M.S., Physical Oceanography

2007

- Thesis title: Unstable waves in the Brazil Current
- · Advisor: Ilson C. A. da Silveira

#### Universidade Federal do Rio Grande, Rio Grande, Rio Grande do Sul, Brazil

B.S., Oceanology

2005

- Thesis title: Frontal Eddies in the Brazil Current off the Coast of Rio Grande do Sul
- · Advisor: Ivan Dias Soares

## FELLOWSHIPS, HONORS AND AWARDS

## Fulbright Scholar, Fulbright-CAPES Fellow

Fall 2007 – Summer 2011

Scholarship to pursue a doctoral degree at the University of Hawaři at Mānoa

## University of Hawai'i Graduate Student Organization Award

Fall 2014

Monetary award to cover research related expenses of the ENIW project.

#### STAR Achievement Scholarship

Fall 2008 and Spring 2015

Monetary award from the University of Hawai'i given to outstanding graduate students.

## RESEARCH EXPERIENCE

## **International Pacific Research Center**, University of Hawaii at Manoa

Postdoctoral Fellow

Feb 2015 – Present

- Project: Intraseasonal variability of the upper ocean in the Seycelles-Chagos Thermocline Ridge region and its impact on MJO initiation and development
- Supervisors: Kelvin Richards, H. Annamalai
- Research areas: Data analysis, Upper ocean mixing, Air-Sea interactions, Physical Oceanography

## **Department of Oceanography**, University of Hawaii at Manoa

Graduate Research Assistant

Aug 2011 – Jul 2014

- · Project: Various.
- Supervisors: Kelvin Richards
- Research areas: Data analysis and numerical modeling, Internal Waves and Mixing, Tropical physical oceanography

#### Ph.D. candidate

Aug 2007 – Jan 2015

- Project: Ocean response to Easterly Waves and near-inertial motions in the tropics.
- Supervisors: Kelvin Richards
- Research areas: Data analysis and numerical modeling, Internal Waves and Mixing, Tropical physical oceanography

## Instituto Oceanográfico, Universidade de São Paulo,

M.S. candidate,

Mar 2005 – Jun 2007

- Project: Instabilities of the Brazil Current.
- Supervisors: Ilson C. A. da Silveira
- · Research areas: Mesoscale eddies, Geophysical instabilities, Numerical modeling, Physical Oceanography

## **Departamento de Física**, Universidade Federal do Rio Grande,

Undergraduate research assistant

2003 - 2004

- Project: Brazil current eddies at the shelf break in southern Brazil coast.
- Supervisors: Ivan D. Soares
- · Research areas: Numerical modeling, Satellite imagery, Shelf-break exchange processes, Physical Oceanography

TEACHING EXPERIENCE

## Summer course "Microbial Oceanography: Genomes to Biomes"

Jun 2015

Center for Microbial Oceanography: Research and Education, SOEST

Instructor/Faculty

- Teach Physical Oceanography of the Hawaiian islands and CTD and general deck operations for the student-cruise. Help students with analysis and graphing of their data for the final presentation.
- Supervisors: Matthew Church, Dave Karl

#### OCN 201: Science of the Sea

Fall 2014

Department of Oceanography, UH Manoa

Teaching Assistant

- Topics: Comprehensive overview of physical, chemical, biological and geological oceanography through classroom lectures and laboratory hands-on practices. Lecture TA and lab instructor.
- Supervisors: Chris Measures

#### School of Ocean and Earth Sciences and Technology (SOEST) Tutor

Spring 2010

University of Hawaii at Manoa

Science Tutor for SOEST undergraduate students

- Topics: Math, Physics, Chemistry and Computer programming.
- Supervisors: Leona Anthony

## OCN 310L: Global Environmental Change lab

Fall 2008 and Fall 2009

Global Environmental Science Program, Department of Oceanography, UH Manoa

Teaching Assistant

- Topics: Earth system sciences, climate and environmental change, Matlab and numerical techniques. Hands-on paper and pen and computer analysis of a variety of Earth system problems.
- · Supervisors: Richard Zeebe

## **IOF 1224: Waves and Tides**

2007

B.S. in Oceanography Program, Instituto Oceanográfico, Universidade de São Paulo

Teaching Assistant

- Topics: Physical oceanography, gravity waves and tides.
- Supervisors: Sueli S. de Godoi

#### **IOF 1222: Ocean Dynamics II**

2006

B.S. in Oceanography Program, Instituto Oceanográfico, Universidade de São Paulo

Teaching Assistant

- Topics: Physical oceanography, Geophysical fluid dynamics up to quasi-geostrophy.
- · Supervisors: Ilson C. A. da Silveira

RESEARCH

## State Funded Time on R/V Kilo Moana in Early 2011,

2010

**GRANTS** 

SOEST, University of Hawaii at Manoa

Awarded 3 days of research aboard the Kilo Moana (later transferred to R/V Falkor) to measure episodical nutrient inputs by wind forced motions in the vicinity of Hawaii (ENIW project moniker). Cost of dissolved nutrient laboratory analysis covered by a GSO grant.

OTHER WORK/

## MRI Estudos Ambientais C.I.A Ltda, Porto Alegre, Brazil

2004

PROFESSIONAL EXPERIENCE

Intern and Environmental consultant

Provided analysis of numerical simulations for an environmental impact assessment report.

FIELD	
EXPERIENCE	

R/V Falkor, Mixing in the Central Equatorial Pacific, 17 days Aug 2015 CTD, LADCP and deck operations. Nutrient sample collection from Niskin bottles. PI: Kelvin Richards. R/V Kilo Moana, Summer Course in Microbial Oceanography, 7 days Jun 2015 Instructor of CTD and deck operations. PI: Matthew Church. R/V Falkor, Kaena-Ridge Hydraulic Jump/ENIW (Student cruises leg 2), 4 days Apr 2014 Co-PI responsible for biological and chemical sampling, planning and execution. Co-PI: Glenn Carter. R/V Kilo Moana, MIXET II, 26 days Oct 2012 Watch leader, CTD console operator, assisted in MSP deployments and MMP mooring recoveries. PI: Kelvin Richards. R/V Kilo Moana, MIXET I, 28 days Apr 2012 CTD console operator, assisted in MSP and MMP mooring deployments. PI: Kelvin Richards. R/V Kilo Moana, MMP mooring deployment near, 5 days Jan 2012 CTD console operator, nutrient sample collection for ENIW. PI: Mathew Alford. R/V Mirai, TRITON western Pacific mooring array maintenance, 34 days Aug 2011 LADCP operator. PI: Yuji Kashino (JAMSTEC, Japan).

# PROFESSIONAL DEVELOPMENT

## Proposal Writing Workshop, C-MORE, UH Manoa

Sep 2015

Apr 2010

Day long workshop for writing an effective proposal, focused on different styles of proposal writing, including NSF-style, mission-based (SeaGrant, NOAA), and private foundations.

R/V Kaimimoana, TAO eastern Pacific mooring array maintenance, 32 days

#### Python in Scientific Computing, UCAR

LADCP operator. PI: Lex LeBlanc (NOAA).

Apr 2015

SEA Software Engineering Conference and Tutorials on using python for the analysis of large data sets and collaborative development.

COMPASS Media and Science Communication Training, Schmidt Ocean Institute Feb 2014 Workshop to train scientist in communicating to the media/press and general audiences.

CESM Tutorial, NCAR

Jul 2012

5 days workshop on setting up and running custom applications of the Community Earth System Model (CESM).

#### ASP's Summer Colloquium, NCAR

Aug 2009

"Marine Ecosystems and Climate: Modeling and Analysis of Observed Variability". Two weeks summer course.

## LEADERSHIP

## Reviewer,

2016 - Present

**AND SERVICE** Journal of Physical Oceanography

## Professional Development Organizing Committee (PDOC),

Fall 2015 – Present

Vice-President

PDOC is a Registered Independent Organization of graduate students and post-docs in the University of Hawaii that design and implements workshops for professional development and skill training, such as proposal writing, job applications, science communication and outreach, online presence.

#### Nā Kama Kai representative,

2011 - 2012

Representative for the oceanography graduate student organization (Nā Kama Kai) in the physical oceanography division of the Department of Oceanography.

#### OUTREACH

## **Impacts of ocean acidification and rising temperatures on coral reefs.** Jan 2009 Hawaii

Aquatic Conference, Kauai, HI

Talk for general audience and community stake holders.

## "Notions on Oceanography: Application of an Interdisciplinary Science", Ubatuba, Brazil

Member of organizing committee and intructor

2005 - 2006

Week long summer courses on basic and interdisciplinary oceanography for general audiences, targeting traditional fishing communities of São Paulo's northern coastline.

#### PUBLICATIONS REFEREED/PEER-REVIEWED

- 1) Benedetto, B., D. P. Nicholson, A. Natarov, <u>S. M. Soares</u>, K. J. Richards and D. M. Karl: Mesoscale eddy structure and horizontal biogeochemical variability from autonomous observations in the North Pacific Subtropical Gyre. *Submitted to J. Geophys. Res. Oceans*.
- 2) Soares, S. M., A. Natarov, and K. J. Richards: Internal swells in the tropics: Near-inertial wave energy fluxes and dissipation during CINDY. *J. Geophys. Res. Oceans*, **121**(5), 3297–3324, doi:10.1002/2015JC011600, 2016.
- 3) Richards, K.J., A. Natarov, E. Firing, Y. Kashino, <u>Soares, S. M.</u>, M. Ishizu, G.S. Carter, J.H. Lee, and K.I. Chang: Shear-generated turbulence in the equatorial Pacific produced by small vertical scale flow features. *J. Geophys. Res.-Oceans*, **120**(5), 3777–3791, doi:10.1002/2014JC010673, 2015.
- 4) <u>Soares, S.M.</u>, and K.J. Richards: Radiation of inertial kinetic energy as near-inertial waves forced by tropical Pacific Easterly Waves. *Geophys. Res. Lett.*, **40**(9), 1760–1765, doi:10.1002/grl.50387, 2013.

## PRESENTATIONS

#### SEMINARS

#### AND TALKS

- 1) <u>Soares, S.M.</u>: The seasonal cycle of the tropical south Indian Ocean and its impact on interannual and intraseasonal variability. Dept. of Oceanography, University of Hawaii, Honolulu. December 2016.
- 2) <u>Soares, S.M.</u>: Intraseasonal variability of the upper ocean in the Seycelles-Chagos Thermocline Ridge Region and its impact on Madden-Julian Oscillation (MJO) initiation and development. CVP Webinar series, NOAA. November 2016.
- 3) <u>Soares, S.M.</u>: Near-Inertial Waves in the Tropics: Results from the CINDY2011 Experiment. Scripps Institution of Oceanography, University of California San Diego. December 2015.
- 4) <u>Soares, S.M.</u>: The near-inertial response to resonant wind forcing and its role in mixing the tropical Pacific Ocean. University of Tokyo and JAMSTEC, Japan. August 2011.

#### CONFERENCE TALKS

- 1) <u>Soares, S.M.</u>, K.J., Richards: Mixing due to resonant forcing by easterly waves in the northeastern tropical Pacific. 2012 Ocean Sciences Meeting, Salt Lake City, UT.
- 2) Soares, S.M., K.J., Richards: Mixing induced by synoptic waves in the northeast tropical Pacific and the role of near-inertial oscillations. 2010 Ocean Sciences Meeting, Portland, OR.

#### CONFERENCE POSTERS

- 1) <u>Soares, S.M.</u>, K.J., Richards, H. Annamalai, A. Natarov. The Impact of Salinity on the Seasonal and Interannual Variability of the Upper Ocean Structure and Air/Sea Interaction in the South Eastern Tropical Indian Ocean. 2016 Ocean Sciences Meeting, New Orleans.
- 2) <u>Soares, S.M.</u>, K.J., Richards, A. Natarov. Near Inertial Waves in the tropical Indian Ocean: Energy fluxes and dissipation. 2014 Ocean Sciences Meeting, Honolulu, HI.
- 3) <u>Soares, S.M.</u>, I. D. Soares, O. O. Jr. Moller. Observações de Vórtices Frontais da Corrente do Brasil ao largo da costa do Rio Grande do Sul (RS). II Congresso Brasileiro de Oceanografia, Vitória, ES, 2005.

**PROFESSIONAL** American Geophysical Union, Member 2010 – Present AFFILIATIONS

**LANGUAGES** Portuguese: Native language.

English: Fluent (speaking, reading, writing).

Spanish: Fluent (reading, speaking); basic (writing).

SKILLS Proficient on: Python, Fortran, Matlab, Linux, Latex, Web page development (html, css,

markup), Limited knowledge: NCL and C